Experiment 1

Student data base

```
#include <stdio.h>
#include<conio.h>
#include <stdlib.h>
#include<string.h>
#define size 10
struct student
{
   int roll;
   char name[20];
   int percent;

}
stud[size];
void initize(int i);
int insert(int i);
void display(int i);
void sort(int);
void search(int);
int main()
{
```

```
int choice,i=0;
char ans='y';
initialize();
do
{
   printf("\n\t\t program for handling student database");
   printf("\n\t\t main menu");
   printf("\n\1.insert\n2.display\n3.sort by descending order of percentage\n3.search\n\t");
   printf("enter your choice : ");
   scanf("%d",&choice);
   switch(choice)
   {
      case 1 : i=insert(i);
      break;
      case 2 :display(i);
      break;
      case 3 :sort(i);
      break;
      case 4 :search(i);
      break;
      default:printf("\n good bye!!");
      exit(0);

   }
```

```
        printf("\n do you want to continue?(y/n):");
        ans=getch();

    }
    while(ans=='y');
    return 0;
}

void initialize()
{
    int i;
    for(i=0;i<size;i++)
    {
        stud[i].roll=1;
        strcpy(stud[i].name,"");
        stud[i].percent=-99;

    }
}

int insert(int i)
{
    if(i<size)
    {
```

```
        printf("\n enter the roll number:\t");
        scanf("%d",&stud[i].roll);
        printf("\n enter name:\t");
        scanf("%s",stud[i].name);
        printf("\n enter the marks:\t");
        scanf("%d",&stud[i].percent);
        i++;
    }
    else
       printf("\n database full cannot insert!!");
    return i;

}

void display(int m)
{
    int i;
    printf("\n roll name marks");
    printf("\n--------------------");
    for(i=0;i<m;i++)
    {
       if(stud[i].roll!=-1)
          printf("\n%d %s %d",stud[i].roll,stud[i].name,stud[i].percent);
```

```
    }
}

void search(int m)
{
    int i,key,flag=0,comp=0;
    printf("\n enter the roll no of the record to be search :");
    scanf("%d",&key);
    for(i=0;i<m;i++)
    {
       comp++;
        if(stud[i].roll!=-1)
          if(stud[i].roll==key)
        {
           flag=1;
           break;

        }
    }
    if(flag==1)
    {
       printf("\n the record is present at %d position",i+1);
       printf("%d\t%s\t%d",stud[i].roll,stud[i].name,stud[i].percent);
```

```
    }
    else
      {
         printf("\n the record is not present");

      }
      printf("\n no of comparison=%d",comp);

}

void sort(int m)
{
    int i,j,temp_roll,temp_percent;
    char temp_name[20];
    int pass=0,comp=0;
    for(i=1;i<m;i++)\

{
pass++;
for(j=0;j<m;j++)
{
    comp++;
    if(stud[j].percent!=-99)
    {
```

```
        if(stud[j].percent<stud[j+1].percent)
        {

           temp_roll=stud[j].roll;
           strcpy(temp_name,stud[j].name);
           temp_percent=stud[j].percent;
           stud[j].roll=stud[j+1].roll;
           strcpy(stud[j].name,stud[j+1].name);
           stud[j].percent=stud[j+1].percent;
           stud[j+1].roll=temp_roll;
           strcpy(stud[j+1].name,temp_name);
           stud[j+1].percent+temp_percent;
        }
     }
  }
}
printf("\n the record is sorted\n");
printf("\n the sorted data :");
display(i);
printf("\n no.of comparison=%d",comp);
printf("\n no.of pass=%d",pass);
}
```

Output

```
        program for handling student database

        main menu

1.insert

2.display

3.sort by descending order of percentage

3.search

    enter your choice : 1


 enter the roll number  43


 enter name     rutuja


 enter the marks       70


 do you want to continue?(y/n):

        program for handling student database

        main menu

1.insert

2.display

3.sort by descending order of percentage

3.search
```

enter your choice : 1

enter the roll number 8

enter name vaishanvi

enter the marks 69

do you want to continue?(y/n):

program for handling student database

main menu

1.insert

2.display

3.sort by descending order of percentage

3.search

enter your choice :

1

enter the roll number 66

enter name karis

enter the marks 68

do you want to continue?(y/n):

program for handling student database

main menu

1.insert

2.display

3.sort by descending order of percentage

3.search

enter your choice :

2

roll name marks

---

43 rutuja 70

8 vaishanvi 69

66 karis 68

do you want to continue?(y/n):

program for handling student database

main menu

1.insert

2.display

3.sort by descending order of percentage

3.search

enter your choice : 3

```
 the record is sorted


 the sorted data :

 roll name marks

--------------------

43 rutuja 70

8 vaishanvi 69

66 karis 68

 no.of comparison=6

 no.of pass=2

 do you want to continue?(y/n):

            program for handling student database

            main menu

1.insert

2.display

3.sort by descending order of percentage

3.search

      enter your choice : 4


 enter the roll no of the record to be search :66


 the record is present at 3 position66  karis   68

 no of comparison=3

 do you want to continue?(y/n):
```